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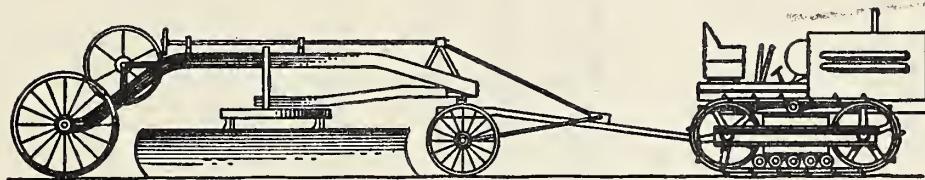


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# CONSTRUCTION



## HINTS

UNITED STATES DEPARTMENT OF AGRICULTURE, FOREST SERVICE  
WASHINGTON, D. C.

Volume 7

March, 1941

No. 2

Revised

### LUBRICATION GUIDE

### DETACH DUPLICATE SECTION

This Guide is based on recommendations from the equipment manufacturers and the oil companies. Additional copies are available on request.

The list of trade names formerly shown has been deleted except for the light oil. Otherwise General Schedule of Supplies (Class 14) greases or Navy Schedule Oils are to be used.

For the convenience of shop and camp personnel space has been provided opposite the General Schedule number to write in the trade names of the greases being stocked.

Other changes include three new 1000 series Navy Oils and a few revisions in the equipment section.

The duplicate section of this issue is to be detached and posted in the camp shop.

GENERAL CLASSIFICATION  
Oils (Navy Contract)

Light Oil.....	2075	SAE-60.....	1120 and 3120
SAE-10W.....	1042	SAE-70.....	1150
SAE-10.....	2110	SAE-80.....	1080 and 3065
SAE-20W.....	1047	SAE-90.....	1100 and 3080
SAE-20.....	2135 and 3050	SAE-140.....	or 3100 ) and Diff.
SAE-30.....	1065, 2190 and 3065	SAE-250.....	1120 or 1150 ) and 3120 )
SAE-40.....	1080, 2250 and 3080	Transformer oil.....	5190
SAE-50.....	1100, and 3100		9045

Greases and Special Oils

The lubricants listed are general purpose grades. Most of these lubricants may be obtained from the manufacturer in a heavier or lighter grade, as may be required for unusual conditions.

- FS-01 - A light oil of low pour point (-20° F) suitable for cold weather operation of hydraulically controlled equipment and air drills. (No contract.)
- FS-02 - An extreme pressure lubricant suitable for automotive equipment requiring a lubricant of this type.
- FS-03 - A hypoid lubricant for automotive hypoid differential gears.
- FS-04 - Lubricants having a low channeling point for automotive transmissions and differentials.
- FS-01 - A lime base, water-resistant grease, suitable for grease guns, for plain and anti-friction bearings at normal speeds and temperatures.
- FS-G2 - Similar to G1, but of heavier consistency suited for screw down cups.
- FS-G3 - A soda base grease for normal or abnormal temperatures and speeds under dry conditions, suitable for plain and anti-friction bearings, passenger car wheel bearings, etc.
- FS-G4 - Similar to G3, but heavier, for truck wheel bearings, universal joints, etc.
- FS-G5 - Chassis lubricants for grease guns. (Different manufacturers use different bases).
- FS-G6 - A non-soap grease for heavy exposed gears and wire ropes usually for hot application.  
Be sure all old grease is removed before application.
- FS-G7 - Similar to G6, but heavier, for warm weather operation (usually applied hot).
- FS-G8 - An unfilled lubricant, for loose and worn plain bearings and where leakage is a problem (not suitable for anti-friction bearings).
- FS-G9 - Similar to G8 but heavier grade (not suitable for anti-friction bearings).  
- A waterproof grease for water pumps.

TABULATION OF TRADE NAMES AND GENERAL SCHEDULE  
ITEM NUMBERS FOR VARIOUS TYPES OF LUBRICANTS

F.S. Design- ation	Type	S.A.E. Vis- cosity Range	Penetra- tion Range	Trade Name or Brand stocked in shop or camp	General Supply Schedule Item Number
FS-01	Light Oil	44 Sec. at 210 F.			*See Footnote
FS-02	Extreme Pressure	90 E.P. 140 E.P.			14-L-206 to 216
FS-03	Extreme Pressure Hypoid	90 E.P. 140 E.P.			14-L-188 to 189
FS-04	Transmis- sion & Dif- ferential	90 140			1000 Series Navy Oil
FS-G1	Lime Base		310 to 340 -		14-G-1155
FS-G2	Lime Base		265 to 295		14-G-1075
FS-G3	Soda Base		265 to 295		14-G-1305
FS-G4	Soda Base		220 to 250		14-G-1425
FS-G5	Base as Indicated		310 to 340		14-G-1177
FS-G6	Non-Soap		Winter Type		14-L-161
FS-G7	Non-Soap		Summer Type		14-L-171
FS-G8	Heavy Oil		Winter Type		14-G-1230
FS-G9	Heavy Oil		Summer Type		14-G-1220
FS-WP	Lime Base		175 to 205		14-G-1384

\*FS-01 not now on General Supply Schedule and must be obtained by open market purchase. The trade names for this lubricant are: Standard Oil Co. of N.J., Zerice 44; Standard Oil Co. of Calif., Calol Ice Machine; General Petroleum Corp. of Calif. Socony Vacuum, S/V Florex C; Texas Oil Co., Cetus Oil; Gulf Oil Co., Eskimo B; Gilmore Oil Co., #130 Oil; Shell Oil Co., Dione Oil #22; Union Oil Co. of Calif., Red Line Hydraulic Oil.

## EQUIPMENT

Note: Use oil and grease of type recommended by manufacturer. The following recommendations conform to usual grades for new or over-hauled equipment. After considerable use, it may be advisable to use oil of the next higher viscosity number, or in extremely low temperatures to use oil of the next lower viscosity number.

"Permanent lubrication" is a term applied to anti-friction bearings on horizontal shafts on some equipment, that is, they require lubrication only about every six months. At this time all old grease should be flushed out with a light oil before refilling.

All four figure numbers refer to Navy Contract oils, all others to the table of General Schedule of Supplies (Class 14) greases.

Where Navy Contract oils are indicated, any other contract oil of the same SAE No. may be substituted, except that the use of 2000 series oils should be avoided if the 1000 and 3000 series are available.

	<u>SUMMER</u>	<u>WINTER</u>
	(Above 40° F.)	(Below 40° F.)

### AIR COMPRESSORS

Engines	3065	3050
Compressor Cylinders	3065	3050

### AUTOMOBILES

Engine:		
Chevrolet	3065	3050
Ford	3080	3050
Plymouth & Dodge	3065	3050
Pontiac	3065	3050
Transmission:		
Chevrolet	04-1100	04-1100
Ford	04-1150	04-1100
Plymouth & Dodge	04-1100	04-1100
Pontiac	04-1150	04-1100
Differential:		
Chevrolet	03 (SAE-90)	03 (SAE-90)
Ford	02 (SAE-140)	02 (SAE-90)
Plymouth & Dodge	03 (SAE-90)	03 (SAE-90)
Pontiac	03 (SAE-140)	03 (SAE-90)
Steering Gear Housings	02 (SAE-90)	02 (SAE-90)
Universal Joints	G4	G4
Water Pumps	WP	WP
Wheel Bearings	G3	G3
Other Chassis Points	G5	G5

	<u>SUMMER</u> (Above 40° F)	<u>WINTER</u> (Below 40° F)
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### CONCRETE MIXERS

Engines	3050	3050
Journal Bearings Plain (Gun Type)	G5	G5
Journal Bearings Plain (Screw cup)	G2	G2
Journal Bearings (Anti-friction)	G1	G1
Open Gears	G7	G6
Closed Gears	04-1150	04-1100

### CRUSHER UNITS - GENERAL

#### Tractor Type

Pitman and side bearings, plain	3065	3065
Drive Pulley bearings, plain	G1	G1
Drive Pulley bearings, anti-friction	G3	G3

#### Plants

Engines (See power units)		
Crushers & Pitman: roller bearings	G4	G4
Conveyors: elevators, anti-friction	G4	G3
Conveyors: elevators, plain	G1	G1
Screen: anti-friction bearings	G4	G3
Screen: plain bearings	G1	G1

(Some manufacturers have permanently lubricated anti-friction bearings on horizontal shafts - grease every six months)

### MOTOR PATROLS

Chassis Points	G5	G5
Engine:		
Caterpillar Diesel	Special Navy Cont.	Special Navy Cont.
Others	3080	3050
Gears (open)	G7	G6
Hydraulic Cylinders	1065	1047
Transmissions, Final Drives	04-1150	04-1100
Universal Joints	G4	G4
Water Pumps	WP	WP
Wheel Bearings	G4	G3

### POWER UNITS (For large equipment)

Air cleaners (General)	3080	3080
Starting motors & Generator bearings	3050	3050
Gasoline Engines (general)	(3065 or 3080)	(3050 or 3065)

#### Diesel Engines

Allis-Chalmers (Hesselman Engine crankcase)	3080	3065
Allis-Chalmers (Gen Motors Diesel crankcase) - Approved G.M. Diesel Engine Lub. Oil (See Procurement Div. Clearance)		

	<u>SUMMER</u> (Above 40° F)	<u>WINTER</u> (Below 40° F)
<u>Diesel Engines (cont.)</u>		
Buda (crankcase)	3065	3050
Caterpillar (crankcase)	Special Navy Cont.	Special Navy Cont.
Starting engine (gasoline)	3050	3050
Crank sprocket shaft bearing	G5	G5
Cummins (crankcase)	3080-3065	3050
General Motors (See Allis-Chalmers)		
Hercules (crankcase)	3065	3050
Int. Harvester (crankcase)	3065	3050
Air cleaner	3080	3080
Fuel injector pump	3050	3050
Magneto coupling	01-9045	01-9045

#### ROCK DRILLS

Grease Pocket Type	G2	G2
Line Lubricators	2110	01-2075

#### SHOVELS & DRAGLINES (General)

Engines (See Power Units)		
Enclosed Gears	3100 or 3120	3050 or 3080
Open gears, racks, wire rope, etc.	G7	G6
Plain bearings, grease	wet, G2; dry G4	wet, G2; dry, G4
Roller bearings, grease	wet, G1; dry G3	wet, G1; dry, G3
Boom point sheaves, plain bearings, anti-friction	G2 G4	G2 G4
Bearings, pins, links, lever joints, etc. - oil can	3065 to 1150	3050 to 1100
Universal joints	G4	G4

#### SHOVELS - LINK BELT

Engines (See Power Units)		
Bevel Gear Reservoir	02 (SAE-140)	02 (SAE-90)
Drive Axle Reservoir	02 (SAE-140)	02 (SAE-90)
Silent Chain casing	02 (SAE-140)	04 (SAE-90)
All high pressure fittings	G5	G5
All open gears	G7	G6

#### SHOVELS -- SPEEDER

Engine (see Power Units)		
Grease tight cases	04-1150	1100
Silent chain, crowd chain	3050	3050
Alemite fittings	G5	G5
Open gears	G7	G6

	<u>SUMMER</u> (Above 40° F)	<u>WINTER</u> (Below 40° F)
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## TRACTORS

Engine (See Power Units)

### Allis-Chalmers:

Final Drive	04-1150	04-1100
Transmission	04-1150	04-1100
Track Wheels, Front Idlers, Equalizer, Crank bearings, Slide shaft bearings, Inner Crank bearings, Supporting Rollers, Inner Crank Slide,		
Bracket Bushings	04-1150	04-1100
Other Chassis Parts	G5	G5

### Caterpillar:

Power Transmission		
Final drive case	04-1150	04-1100
Flywheel clutch collar shaft		
Model 20, 25, 28, 30, 60	G5	G5
Model 35, 40, 50, RD4, RD6, RD7, RD8, Diesel 40, Diesel 50, Diesel 75	04-1150	04-1100
Flywheel clutch release bearing -		
Model 10, 15, 22	3080	3050
Model 60	G5	G5
Transmission cases - all models except 60	04-1150	04-1100
Model 60 bevel gear compart.	3080	3050
Model 60 speed change compart.	04-1150	04-1100
Steering clutch control lever		
sleeve - Model 30, 60, 70, RD4, RD6, RD7, RD8, Diesel 50 & 75	G5	G5
Steering clutch release bearing	3080	3050
Chassis		
Brake Pedal shaft	G5	G5
Front idler sprocket - Model 10, 15, 22, 28, 40, 50, RD4, RD6, RD7, RD8, Diesel 40, Diesel 50, Diesel 75	04-1150	04-1100
Model 20, 25, after No. 3C450, 35 after No. 5C653, 60	G5	G5
Track Carrier Rollers -		
Model 28, 40, 50, 70, RD4, RD6, RD7, Diesel 40, Diesel 50, Diesel 75	04-G8-G9	04-G8-G9
Model 35 (No. 5C1 to 5C652 inc.) 25 (No. 3C1 to 3C450 inc.) 30, 60	G5	G5
Track rollers - Models 10, 15, 22, 25, 28, 35, 40, 50, 70, RD4, RD6, RD7, RD8, Diesel 40, Diesel 50, Diesel 75	04-G8-G9	04-G8-G9
Models 20, 25, (No. 3C1 to 3C450 inc.), 30, 35, (No. 5C1 to 5C652 inc.), 60	G5	G5
Track roller frame bearing	G5	G5

For wet locations the roller assemblies may be lubricated with a light lime base grease.

	<u>SUMMER</u> (Above 40° F)	<u>WINTER</u> (Below 40° F)
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## TRACTORS (Cont.)

### Cletrac:

Fan (oil type)	3080	3080
Fan (grease type)	G4	G4
Air cleaners	3080	3080
Magneto	3050	3050
Distributor	G4	G4
Water Pump	WP	WP
Water pump (BD)	3080	3080
Power transmission		
Transmission & Final Drive	3100	3065
Clutch collar shaft	G3	G3
Track Wheel System (all types)	3100	3050
Chassis		
Spring Trunnions	3080	3080
Other grease lubrication	G4	G4

### International Harvester:

Fan Hub	04-1150	04-1100
Water Pump	04-1150	04-1100
Air cleaners	3080	3080
Clutch release bearings	04-1150	04-1100
Transmission & Final Drive	04-1150	04-1100
Front idlers & track rollers	04-1150	04-1100
Alemite push type fittings	04-1150	04-1100

## TRAILERS AND TRUCKS

### Engine:

Chevrolet	3065	3050
Dodge	3065	3050
Ford	3080	3050
FWD	3080	3050
GMC	3065	3050
International	3065	3050
Kenworth	3080	3050
Reo	3065	3050
Walter	3080	3050

### Transmissions, Transfer Units:

#### Differentials:

Chevrolet (03 on 1940 models)	02 (SAE-140)	02 (SAE-90)
Dodge	02 (SAE-140)	02 (SAE-90)
Ford	02 (SAE-140)	02 (SAE-90)
FWD	02 (SAE-140)	02 (SAE-90)
GMC	04-1150	04-1100
International	02-(SAE-140)	02 (SAE-90)
Kenworth	04-1150	04-1100
Reo	02 (SAE-140)	02 (SAE-90)
Walter	04-1150	04-1100

#### Universal Joints:

Oil-type	04-1150	04-1100
Grease type	G4	G4

	<u>SUMMER</u> (Above 40° F)	<u>WINTER</u> (Below 40° F)
Wheel bearings	G4	G4
Water pump bearings (grease type)	WP	WP
Chassis points	G5	G5
Steering gear housings	O2	O2

WELDERS

Engines and generator bearings	3050	3050
Grease points	G5	G5



**SECOND EDITION**

**TO BE DETACHED AND  
POSTED IN CAMP SHOP**

GENERAL CLASSIFICATION  
Oils (Navy Contract)

Light Oil.....	2075	SAE-60.....	1120 and 3120
SAE-10W.....	1042	SAE-70.....	1150
SAE-10.....	2110	SAE-80.....	1080 and 3065 )
SAE-20W.....	1047	SAE-90.....	1100 and 3080 ) Trans.
SAE-20.....	2135 and 3050	SAE-140.....	or 3100 ) and Diff. and 3120 )
SAE-30.....	1065, 2190 and 3065	SAE-250.....	1120 or 1150 )
SAE-40.....	1080, 2250 and 3080	Transformer oil.....	and 3120 )
SAE-50.....	1100, and 3100		5190
			9045

Greases and Special Oils

The lubricants listed are general purpose grades. Most of these lubricants may be obtained from the manufacturer in a heavier or lighter grade, as may be required for unusual conditions.

FS-01 - A light oil of low pour point (-20° F) suitable for cold weather operation of hydraulically controlled equipment and air drills. (No contract.)

FS-02 - An extreme pressure lubricant suitable for automotive equipment requiring a lubricant of this type.

FS-03 - A hypoid lubricant for automotive hypoid differential gears.

FS-04 - Lubricants having a low channeling point for automotive transmissions and differentials.

FS-G1 - A lime base, water-resistant grease, suitable for grease guns, for plain and anti-friction bearings at normal speeds and temperatures.

FS-G2 - Similar to G1, but of heavier consistency suited for screw down cups.

FS-G3 - A soda base grease for normal or abnormal temperatures and speeds under dry conditions, suitable for plain and anti-friction bearings, passenger car wheel bearings, etc.

FS-G4 - Similar to G3, but heavier, for truck wheel bearings, universal joints, etc.

FS-G5 - Chassis lubricants for grease guns. (Different manufacturers use different bases).

FS-G6 - A non-soap grease for heavy exposed gears and wire ropes usually for hot application. Be sure all old grease is removed before application.

FS-G7 - Similar to G6, but heavier, for warm weather operation (usually applied hot).

FS-G8 - An unfilled lubricant, for loose and worn plain bearings and where leakage is a problem (not suitable for anti-friction bearings).

FS-G9 - Similar to G8 but heavier grade (not suitable for anti-friction bearings).  
 MP - A waterproof grease for water pumps.

TABULATION OF TRADE NAMES AND GENERAL SCHEDULE  
ITEM NUMBERS FOR VARIOUS TYPES OF LUBRICANTS

F.S. Design- nation	Type	S.A.E. Vis- cosity Range	Penetra- tion Range	Trade Name or Brand stocked in shop or camp	General Supply Schedule Item Number
FS-01	Light Oil	44 Sec. at 210 F.			*See Footnote
FS-02	Extreme Pressure	90 E.P. 140 E.P.			14-L-206 to 216
FS-03	Extreme Pressure Hypoid	90 E.P. 140 E.P.			14-L-188 to 189
FS-04	Transmis- sion & Dif- ferential	90 140			1000 Series Navy Oil
FS-G1	Lime Base		310 to 340		14-G-1155
FS-G2	Lime Base		265 to 295		14-G-1075
FS-G3	Soda Base		265 to 295		14-G-1305
FS-G4	Soda Base		220 to 250		14-G-1425
FS-G5	Base as Indicated		310 to 340		14-G-1177
FS-G6	Non-Soap		Winter Type		14-L-161
FS-G7	Non-Soap		Summer Type		14-L-171
FS-G8	Heavy Oil		Winter Type		14-G-1230
FS-G9	Heavy Oil		Summer Type		14-G-1220
FS-WP	Lime Base		175 to 205		14-G-1384

\*FS-01 not now on General Supply Schedule and must be obtained by open market purchase. The trade names for this lubricant are: Standard Oil Co. of N.J., Zerice 44; Standard Oil Co. of Calif., Calol Ice Machine; General Petroleum Corp. of Calif. Socony Vacuum, S/V Florex C; Texas Oil Co., Cetus Oil; Gulf Oil Co., Eskimo B; Gilmore Oil Co., #130 Oil; Shell Oil Co., Dione Oil #22; Union Oil Co. of Calif., Red Line Hydraulic Oil.



## EQUIPMENT

Note: Use oil and grease of type recommended by manufacturer. The following recommendations conform to usual grades for new or over-hauled equipment. After considerable use, it may be advisable to use oil of the next higher viscosity number, or in extremely low temperatures to use oil of the next lower viscosity number.

"Permanent lubrication" is a term applied to anti-friction bearings on horizontal shafts on some equipment, that is, they require lubrication only about every six months. At this time all old grease should be flushed out with a light oil before refilling.

All four figure numbers refer to Navy Contract oils, all others to the table of General Schedule of Supplies (Class 14) greases.

Where Navy Contract oils are indicated, any other contract oil of the same SAE No. may be substituted, except that the use of 2000 series oils should be avoided if the 1000 and 3000 series are available.

	<u>SUMMER</u> (Above 40° F.)	<u>WINTER</u> (Below 40° F.)
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### AIR COMPRESSORS

Engines	3065	3050
Compressor Cylinders	3065	3050

### AUTOMOBILES

#### Engine:

Chevrolet	3065	3050
Ford	3080	3050
Plymouth & Dodge	3065	3050
Pontiac	3065	3050

#### Transmission:

Chevrolet	04-1100	04-1100
Ford	04-1150	04-1100
Plymouth & Dodge	04-1100	04-1100
Pontiac	04-1150	04-1100

#### Differential:

Chevrolet	03 (SAE-90)	03 (SAE-90)
Ford	02 (SAE-140)	02 (SAE-90)
Plymouth & Dodge	03 (SAE-90)	03 (SAE-90)
Pontiac	03 (SAE-140)	03 (SAE-90)

#### Steering Gear Housings

Universal Joints	G4	G4
Water Pumps	WP	WP
Wheel Bearings	G3	G3
Other Chassis Points	G5	G5



	<u>SUMMER</u> (Above 40° F)	<u>WINTER</u> (Below 40° F)
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### CONCRETE MIXERS

Engines	3050	3050
Journal Bearings Plain (Gun Type)	G5	G5
Journal Bearings Plain (Screw cup)	G2	G2
Journal Bearings (Anti-friction)	G1	G1
Open Gears	G7	G6
Closed Gears	04-1150	04-1100

### CRUSHER UNITS - GENERAL

#### Tractor Type

Pitman and side bearings, plain	3065	3065
Drive Pulley bearings, plain	G1	G1
Drive Pulley bearings, anti-friction	G3	G3

#### Plants

Engines (See power units)		
Crushers & Pitman: roller bearings	G4	G4
Conveyors: elevators, anti-friction	G4	G3
Conveyors: elevators, plain	G1	G1
Screen: anti-friction bearings	G4	G3
Screen: plain bearings	G1	G1

(Some manufacturers have permanently lubricated anti-friction bearings on horizontal shafts - grease every six months)

### MOTOR PATROLS

Chassis Points	G5	G5
Engine:		
Caterpillar Diesel	Special Navy Cont.	Special Navy Cont.
Others	3080	3050
Gears (open)	G7	G6
Hydraulic Cylinders	1065	1047
Transmissions, Final Drives	04-1150	04-1100
Universal Joints	G4	G4
Water Pumps	WP	WP
Wheel Bearings	G4	G3

### POWER UNITS (For large equipment)

Air cleaners (General)	3080	3080
Starting motors & Generator bearings	3050	3050
Gasoline Engines (general)	(3065 or 3080)	(3050 or 3065)

#### Diesel Engines

Allis-Chalmers (Hesselman Engine crankcase)	3080	3065
Allis-Chalmers (Gen Motors Diesel crankcase) - Approved G.M. Diesel Engine Lub. Oil (See Procurement Div. Clearance)		

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	<u>SUMMER</u> (Above 40° F)	<u>WINTER</u> (Below 40° F)
<u>Diesel Engines (cont.)</u>		
Buda (crankcase)	3065	3050
Caterpillar (crankcase)	Special Navy Cont.	Special Navy Cont.
Starting engine (gasoline)	3050	3050
Crank sprocket shaft bearing	G5	G5
Cummins (crankcase)	3080-3065	3050
General Motors (See Allis-Chalmers)		
Hercules (crankcase)	3065	3050
Int. Harvester (crankcase)	3065	3050
Air cleaner	3080	3080
Fuel injector pump	3050	3050
Magneto coupling	01-9045	01-9045

#### ROCK DRILLS

Grease Pocket Type	G2	G2
Line Lubricators	2110	01-2075

#### SHOVELS & DRAGLINES (General)

Engines (See Power Units)		
Enclosed Gears	3100 or 3120	3050 or 3080
Open gears, racks, wire rope, etc.	G7	G6
Plain bearings, grease	wet, G2; dry G4	wet, G2; dry, G4
Roller bearings, grease	wet, G1; dry G3	wet, G1; dry, G3
Boom point sheaves, plain bearings, anti-friction	G2 G4	G2 G4
Bearings, pins, links, lever joints, etc. - oil can	3065 to 1150	3050 to 1100
Universal joints	G4	G4

#### SHOVELS - LINK BELT

Engines (See Power Units)		
Bevel Gear Reservoir	02 (SAE-140)	02 (SAE-90)
Drive Axle Reservoir	02 (SAE-140)	02 (SAE-90)
Silent Chain casing	02 (SAE-140)	04 (SAE-90)
All high pressure fittings	G5	G5
All open gears	G7	G6

#### SHOVELS -- SPEEDER

Engine (see Power Units)		
Grease tight cases	04-1150	1100
Silent chain, crowd chain	3050	3050
Alemite fittings	G5	G5
Open gears	G7	G6



SUMMER  
(Above 40° F)      WINTER  
(Below 40° F)

## TRACTORS

Engine (See Power Units)

Allis-Chalmers:

Final Drive	04-1150	04-1100
Transmission	04-1150	04-1100
Track Wheels, Front Idlers, Equalizer, Crank bearings, Slide shaft bear- ings, Inner Crank bearings, Support- ing Rollers, Inner Crank Slide,		
Bracket Bushings	04-1150	04-1100
Other Chassis Parts	G5	G5

Caterpillar:

Power Transmission		
Final drive case	04-1150	04-1100
Flywheel clutch collar shaft		
Model 20, 25, 28, 30, 60	G5	G5
Model 35, 40, 50, RD4, RD6, RD7, RD8, Diesel 40, Diesel 50, Diesel 75	04-1150	04-1100
Flywheel clutch release bearing -		
Model 10, 15, 22	3080	3050
Model 60	G5	G5
Transmission cases -- all models		
except 60	04-1150	04-1100
Model 60 bevel gear compart.	3080	3050
Model 60 speed change compart.	04-1150	04-1100
Steering clutch control lever		
sleeve - Model 30, 60, 70, RD4, RD6, RD7, RD8, Diesel 50 & 75	G5	G5
Steering clutch release bearing	3080	3050
Chassis		
Brake Pedal shaft	G5	G5
Front idler sprocket - Model 10, 15, 22, 28, 40, 50, RD4, RD6, RD7, RD8, Diesel 40, Diesel 50, Diesel 75	04-1150	04-1100
Model 20, 25, after No. 3C450, 35 after No. 5C653, 60	G5	G5
Track Carrier Rollers -		
Model 28, 40, 50, 70, RD4, RD6, RD7, Diesel 40, Diesel 50, Diesel 75	04-G8-G9	04-G8-G9
Model 35 (No. 5C1 to 5C652 inc.)		
25 (No. 3C1 to 3C450 inc.) 30, 60	G5	G5
Track rollers - Models 10, 15, 22, 25, 28, 35, 40, 50, 70, RD4, RD6, RD7, RD8, Diesel 40, Diesel 50, Diesel 75	04-G8-G9	04-G8-G9
Models 20, 25, (No. 3C1 to 3C450 inc.), 30, 35, (No. 5C1 to 5C652 inc.), 60	G5	G5
Track roller frame bearing	G5	G5

For wet locations the roller assemblies may be lubricated with a light lime base grease.



	<u>SUMMER</u> (Above 40° F)	<u>WINTER</u> (Below 40° F)
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## TRACTORS (Cont.)

### Cletrac:

Fan (oil type)	3080	3080
Fan (grease type)	G4	G4
Air cleaners	3080	3080
Magneto	3050	3050
Distributor	G4	G4
Water Pump	WP	WP
Water pump (BD)	3080	3080
Power transmission		
Transmission & Final Drive.	3100	3065
Clutch collar shaft	G3	G3
Track Wheel System (all types)	3100	3050
Chassis		
Spring Trunnions	3080	3080
Other grease lubrication	G4	G4

### International Harvester:

Fan Hub	04-1150	04-1100
Water Pump	04-1150	04-1100
Air cleaners	3080	3080
Clutch release bearings	04-1150	04-1100
Transmission & Final Drive	04-1150	04-1100
Front idlers & track rollers	04-1150	04-1100
Alemite push type fittings	04-1150	04-1100

## TRAILERS AND TRUCKS

### Engine:

Chevrolet	3065	3050
Dodge	3065	3050
Ford	3080	3050
FWD	3080	3050
GMC	3065	3050
International	3065	3050
Kenworth	3080	3050
Reo	3065	3050
Walter	3080	3050

### Transmissions, Transfer Units:

#### Differentials:

Chevrolet (03 on 1940 models)	02 (SAE-140)	02 (SAE-90)
Dodge	02 (SAE-140)	02 (SAE-90)
Ford	02 (SAE-140)	02 (SAE-90)
FWD	02 (SAE-140)	02 (SAE-90)
GMC	04-1150	04-1100
International	02-(SAE-140)	02 (SAE-90)
Kenworth	04-1150	04-1100
Reo	02 (SAE-140)	02 (SAE-90)
Walter	04-1150	04-1100

#### Universal Joints:

Oil-type	04-1150	04-1100
Grease type	G4	G4



	<u>SUMMER</u> (Above 40° F)	<u>WINTER</u> (Below 40° F)
Wheel bearings	G4	G4
Water pump bearings (grease type)	WP	WP
Chassis points	G5	G5
Steering gear housings	O2	O2

WELDERS

Engines and generator bearings	3050	3050
Grease points	G5	G5

